

## **CAST STEEL Swing Check Valves Bolted Bonnet**

**Size:** 2" up to 60"

**Applicable area:** Desalination, Oil & Gas, Power plant, Marine, Chemical, Petrochemical plants etc



### **BODY**

The cast steel body is designed to insure a wall thickness, which is greater at any point the minimum, specified by API standard 600 or API 6D; Port and seat passage dimensions confirm to ASME B16.34

The welded- in type seat ring is standard to allow interchangeability.

The standard body-bonnet joint is male-female, and the flanges is round for all valves

### **Disc**

The disc has a sufficient sealing surface area, which is ground and lapped to a minor finish.

It is of one –piece construction and is heat treated to deliver the required mechanical properties and hardness.

### **SEAT RING**

The bottom seated type seat ring is welded or screwed into body.

The seating surface is finished by lapping.

The forged seat ring is heat- treated to deliver the best mechanical properties and required hardness.

### **Cover**

The cover material is identical to the body

Depending of the valve sizes and pressure class, either a casting or forging is used

### **Arm**

The arm material is identical to the body

Hinge bushing is provided in the larger valves sizes to minimize friction and eliminate sizing

### **Hinge pin**

**The hinge pin is inserted into the valve and held in position by plug.**

**The larger size valves are provided with bolted flanges instead of plugs**

### **BOLTING**

The bolted cover bolting conforms to ANSI B1.1

The nuts are manufactured to confirm with ANSI B16.2.2r

Subject to alternation

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Swing Check Valves  
Bolted Bonnet**

**Available Body Material**

Material	Specification	Material	Specification
Carbon steel	A216 WCB	Alloy 825	UNS N00825
Low temperature Carbon	A352 LCB	Alloy 625	A494 CW6MC
Low temperature Carbon	A352 LCC	Hastelloy C276	A494 CW12MW
5% Cr Steel	A217 C5	Monel 400	A494 M351
9% Cr. Steel	A217 C12	Nickle AL-Bz	B148 C95800
Low temperature 13Cr 4n	A352 CA6NM	Inconel 625	A494 CW6MC
410 stainless steel	A217 CA15	Duplex SS Gr.1	A351 CD4MCu
304 stainless steel	A351 CF8	Duplex SS Gr.2	A890 CE8MN
316 stainless steel	A351 CF8M	Duplex SS Gr.3	A890 CD6MN
317 Stainless steel	A352 CG8M	Duplex SS Gr.5	A890 CE3MN
Alloy 20	A351 CN7M	254SMO	A351 CK3MCuN
Gray iron	A125CLB	940L SS	A351 CN2MCuN
Ductile Iron	A395	Titanium Gr.2	B381 F2

**Available Trim Material**

Nominal Trim	Material Type	Nominal Trim	Material Type
F6	13Cr	F6 and Hard faced	13Cr Ni-Cr
304	18Cr-8Ni	Monel	Ni-Cu alloy
F310	25Cr-20Ni	316	18Cr-88Ni
Hard F6	Hard 13Cr	Monel and hard faced	Ni-Cu alloy; Trim 5 or 5A
Hard faced	Cu-Cr A	316 and hard faced	18Cr-8Ni; Trim 6 or 5A
Hard faced	Ni- Cr	Alloy 20	19Cr-29Ni
F6 and Hard F6	13 Cr Hard 13Cr	Alloy 20 and Hard faced	19Cr-29Ni; trim 5 or 5A

**Rating**

ASME class 125 up to ASME class 2500

**End connection**

RF: raised face flange / FF: Flat face flange / RTJ: ring joint type flange/ BW: Butt weld end

**Option**

Cryogenic service /Fire safety / Oxygen service Special lining/(Teflon insert

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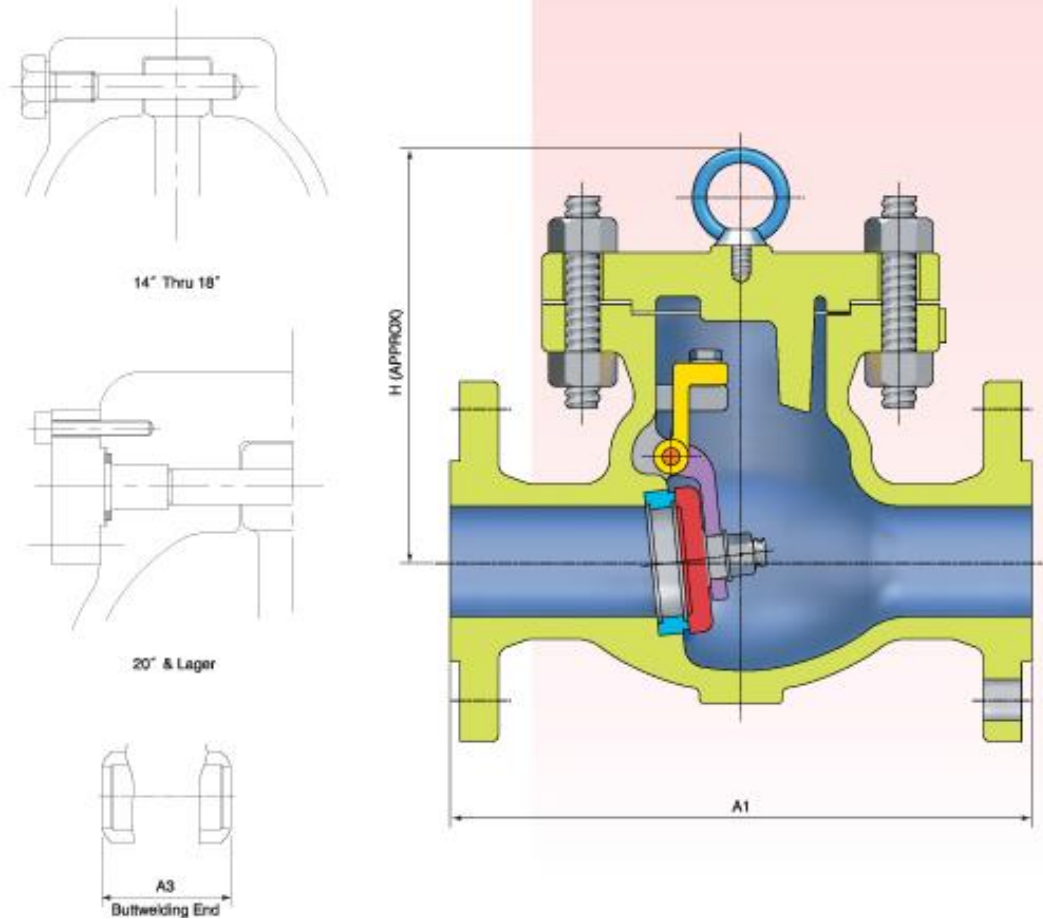
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**Swing Check Valves**

Bolted Bonnet

Class 150



**Dimensions**

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	
A1 & A3	in	8.0	8.5	9.5	11.5	14.0	18.5	24.5	27.5	31.0	34.0	38.5	38.5	51.0	51.0	57.0	60.0	60.0	77.0	
	mm	203	216	241	292	356	495	622	698	787	864	978	978	1295	1295	1448	1524	1524	1956	
H	in	5.8	6.4	6.9	8.0	11.4	13.8	16.9	19.6	23.9	25.6	30.7	25.5	31.5	33.5	40.0	35.0	37.0	53.1	
	mm	147	163	176	204	290	350	428	499	606	650	781	647	800	852	1017	890	941	1349	
WEIGHT	RF	lb	35.3	48.5	66.1	97.0	172.0	260.1	320.3	758.4	930.3	1387.7	1798.9	2164.9	3824.2	3637.6	3825.0	4647.3	5291.0	7385.4
		kg	16	22	30	44	78	118	236	344	422	634	816	982	1780	1650	1735	2108	2400	3350
	BW	lb	28.7	33.1	46.3	57.3	136.7	200.6	449.7	645.9	661.4	1276.5	1547.6	1878.3	3584.7	3306.9	3223.1	4426.8	4960.3	6844.5
		kg	13	15	21	26	62	91	204	293	300	579	702	852	1626	1500	1462	2008	2250	3150

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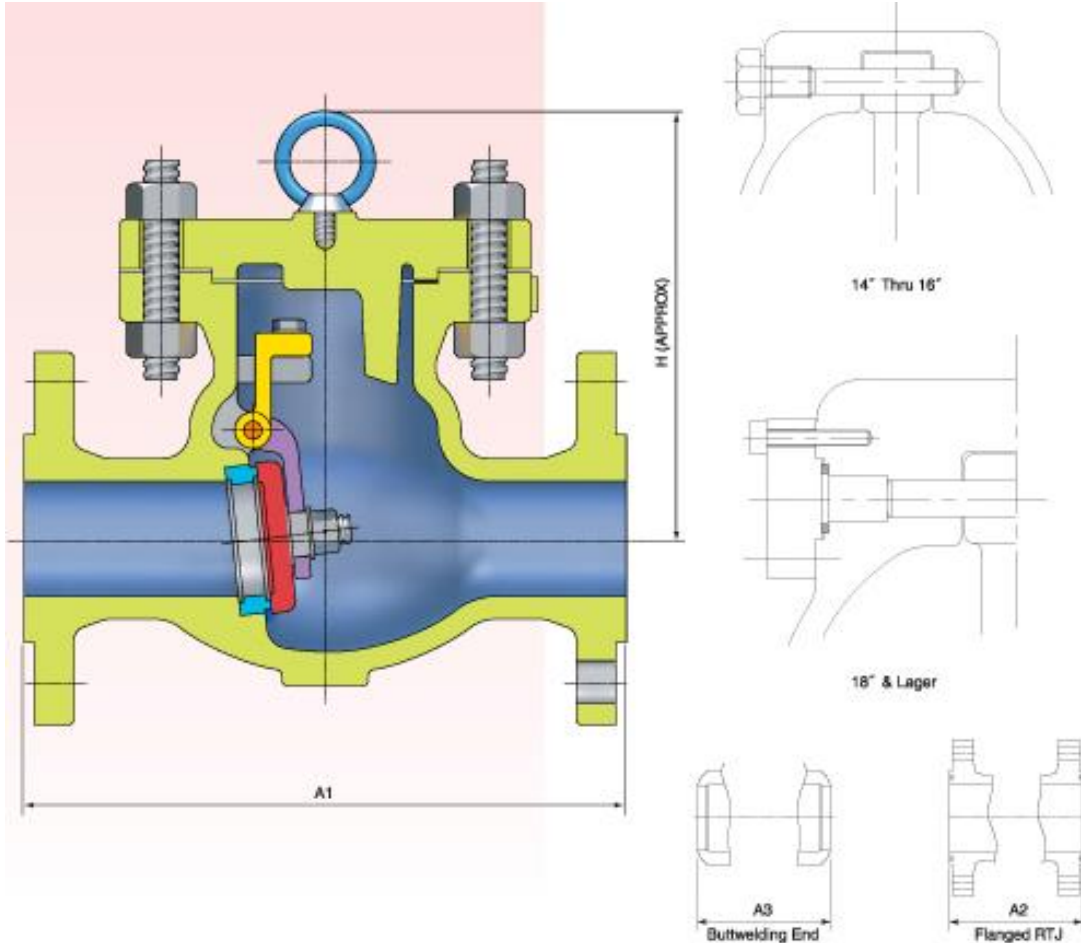
Industrial Valves: DIN · API · ASME

**Nero bolted bonnet Swing check Valves**

**Swing Check Valves**

Bolted Bonnet

Class 300



**Dimensions**

VALVE SIZE	In	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36	
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900	
A1 & A3	In	10.5	11.5	12.5	14.0	17.5	21.0	24.5	28.0	33.0	34.0	38.5	40.0	53.0	59.0	62.8	82.0	
	mm	267	292	318	356	444	533	622	711	838	864	978	1016	1346	1499	1594	2083	
A2	In	11.1	12.1	13.1	14.6	18.1	21.6	25.1	28.6	33.6	34.6	39.1	40.7	53.9	60.0	63.7	83.1	
	mm	283	308	333	371	460	549	638	727	854	880	994	1035	1368	1524	1619	2111	
H	In	6.4	7.1	7.8	8.7	13.1	15.0	18.8	21.1	22.8	27.4	31.4	30.5	40.4	45.2	50.0	46.1	
	mm	163	180	197	220	332	380	477	535	580	695	797	775	1025	1149	1270	1171	
WEIGHT	WF	lb	52.9	81.6	99.2	149.9	302.0	485.0	585.2	1061.3	1499.1	2094.4	2645.5	3306.9	4850.1	6172.9	7485.6	11022.9
		kg	24	37	45	68	137	220	270	485	680	950	1200	1500	2200	2800	3400	5000
	BW	lb	46.3	66.1	77.2	112.4	242.5	401.2	463.0	925.9	1157.4	1763.7	2202.4	2689.6	4060.9	5291.0	6503.5	9063.1
		kg	21	30	35	51	110	182	210	420	525	800	999	1220	1842	2400	2950	4111

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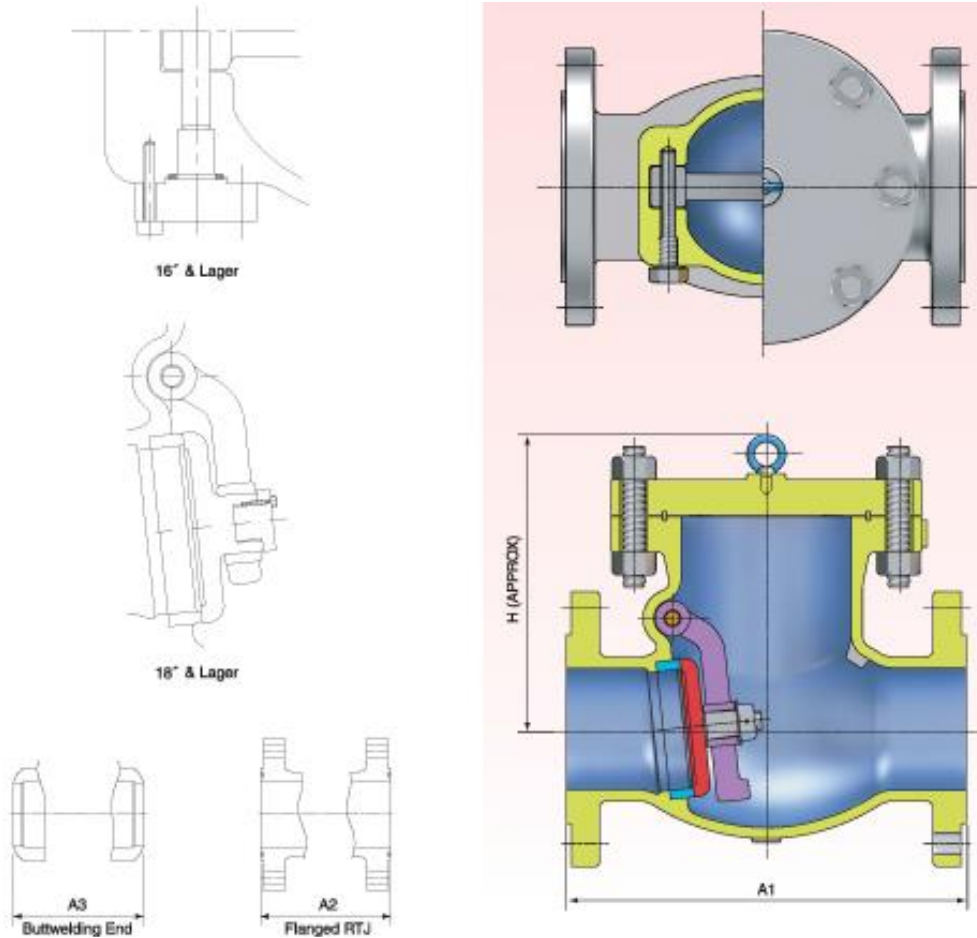
Industrial Valves: DIN · API · ASME

**Nero bolted bonnet Swing check Valves**

## Swing Check Valves

Bolted Bonnet

Class 600



### Dimensions

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	
A1 & A3	in	11.5	13.0	14.0	17.0	22.0	26.0	31.0	33.0	35.0	38.0	43.0	47.0	55.0	63.0	65.0	
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1600	1651	
A2	in	11.6	13.1	14.1	17.1	22.1	26.1	31.1	33.1	35.1	38.1	43.1	47.2	55.4	63.5	65.5	
	mm	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	1613	1664	
H	in	8.3	8.6	10.5	12.2	15.5	21.2	24.6	24.4	26.8	32.0	37.8	40.5	47.3	54.6	51.7	
	mm	210	219	267	310	393	538	625	620	680	812	960	1029	1202	1388	1313	
WEIGHT	RF	lb	88.2	121.3	158.7	253.5	551.1	825.9	1348.2	1785.7	1984.1	2971.8	4448.9	5264.6	7195.8	8038.8	11022.9
		kg	40	55	72	115	250	420	612	810	900	1348	2018	2388	3264	4100	5000
	BW	lb	83.8	99.2	138.9	176.4	451.9	762.8	1078.0	1472.7	1940.0	2464.7	3798.5	4437.8	6011.9	7716.1	8261.5
		kg	38	45	63	80	205	346	489	668	880	1118	1723	2013	2727	3500	4201

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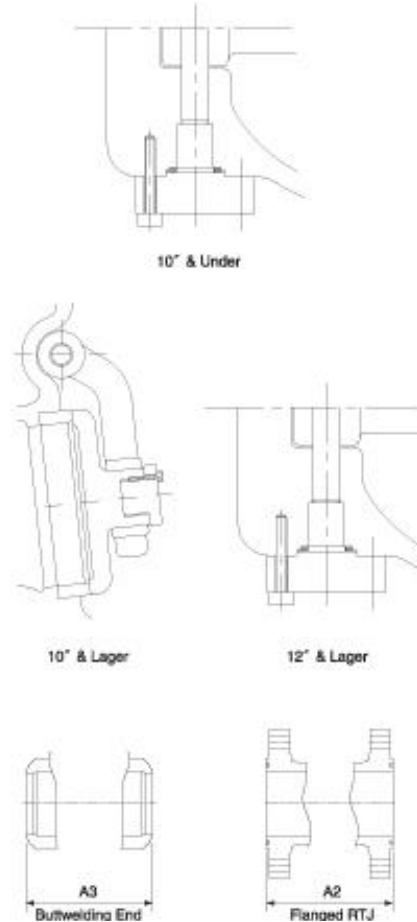
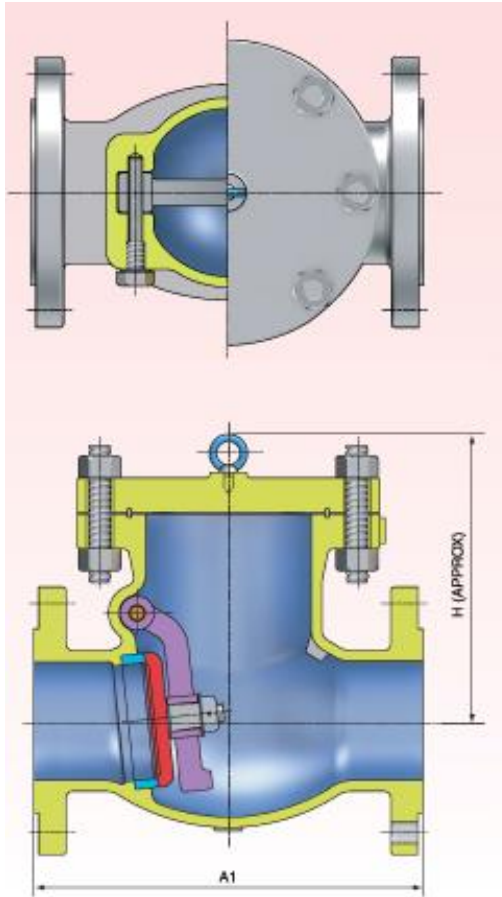
Industrial Valves: DIN · API · ASME

**Nero bolted bonnet Swing check Valves**

## Swing Check Valves

Bolted Bonnet

Class 900



### Dimensions

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	
	mm	50	65	80	100	150	200	250	300	350	400	450	500	500	600	700	750
A1 & A3	in	14.5	16.5	15.0	18.0	24.0	28.0	33.0	38.0	40.5	44.5	48.0	52.0	61.0	66.0	73.0	
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	1753	1854	
A2	in	14.6	16.6	15.1	18.1	24.1	28.1	33.1	38.1	40.9	44.9	48.5	52.5	61.7	69.9	73.9	
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1333	1568	1775	1876	
H	in	12.2	13.0	8.1	15.3	17.9	22.2	28.7	30.7	29.8	34.3	36.3	41.4	47.2	55.1	61.8	
	mm	308	331	207	389	454	565	729	781	756	870	921	1051	1200	1400	1589	
WEIGHT	BF	lb	160.9	242.5	180.8	471.8	837.7	1375.7	2535.3	3195.7	3858.0	5335.1	7164.9	8818.4	12786.6	17195.8	19951.5
		kg	73	110	82	214	380	624	1150	1450	1750	2420	3250	4000	5800	7800	9050
	BW	lb	119.0	191.8	136.7	383.6	502.6	1089.1	2094.4	2601.4	3195.7	4519.4	5952.4	7275.1	8920.7	14680.5	16885.1
		kg	54	87	62	174	228	494	950	1180	1450	2050	2700	3300	4500	6650	7650

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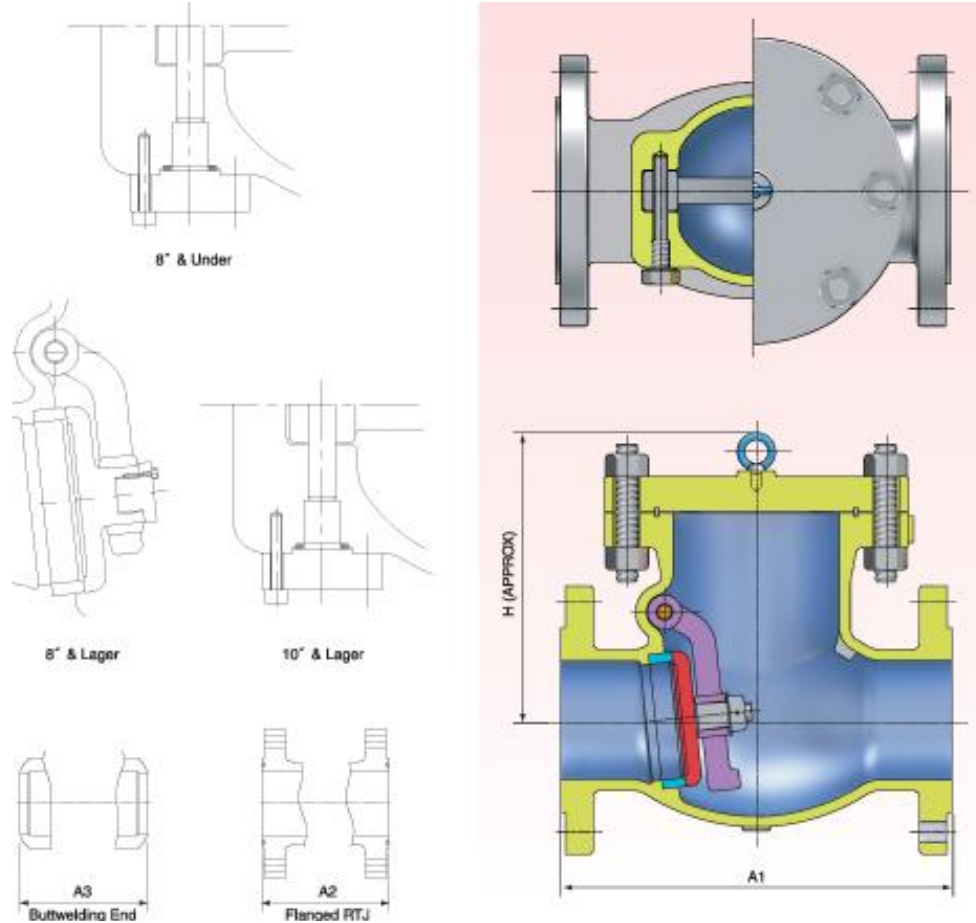
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## Swing Check Valves

Bolted Bonnet

Class 1500



### Dimensions

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	
	mm	50	65	80	100	150	200	250	300	300	350	400	450	500	600
A1 & A3	in	14.5	16.5	18.5	21.5	27.8	32.8	39.0	44.5	49.5	54.4	60.5	65.5	76.5	
	mm	368	419	470	546	705	832	991	1130	1257	1383	1537	1664	1943	
A2	in	14.6	16.6	18.6	21.6	28.0	33.1	39.4	45.1	50.2	55.3	61.4	66.4	77.6	
	mm	371	422	473	549	711	841	1000	1146	1276	1405	1558	1686	1972	
H	in	12.2	13.0	14.8	17.0	22.3	26.3	28.9	35.6	40.7	42.0	47.1	51.1	57.1	
	mm	309	331	375	433	567	668	734	904	1035	1067	1197	1299	1451	
WEIGHT	RF	lb	154.3	220.5	374.8	467.4	1067.0	2623.5	4078.5	7341.3	7936.5	10802.5	14560.3	17967.4	25903.9
		kg	70	100	170	212	484	1190	1850	3330	3600	4900	6600	8150	11750
	BW	lb	112.4	191.8	308.6	361.6	813.5	2127.4	3262.8	6084.7	6250.0	8587.9	11574.1	14219.6	19041.3
		kg	51	87	140	164	368	965	1480	2760	2835	3900	5250	6450	9000

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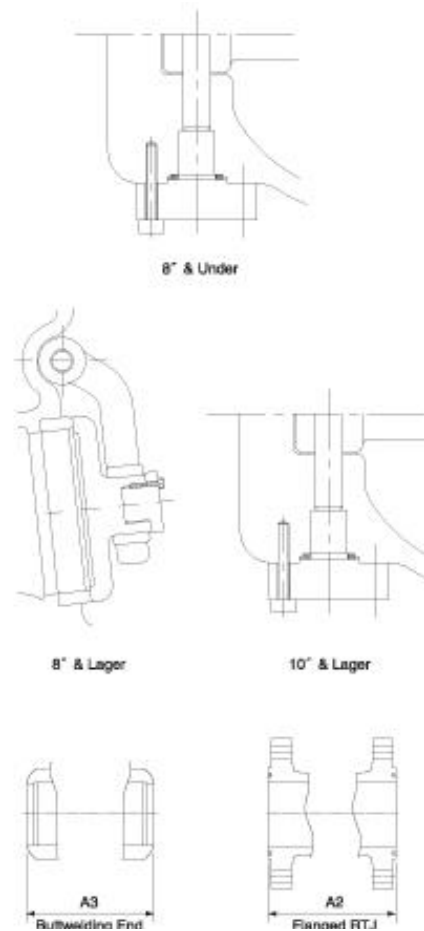
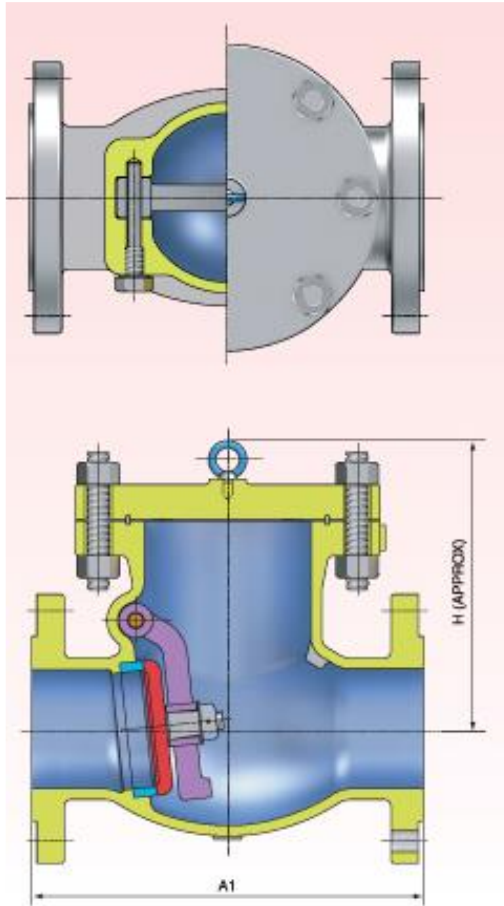
Industrial Valves: DIN · API · ASME

**Nero bolted bonnet Swing check Valves**

## Swing Check Valves

Bolted Bonnet

Class 2500



### Dimensions

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	
	mm		50	65	80	100	150	200	250	300	350	400
A1 & A3	in		17.8	20.0	22.8	26.5	36.0	40.2	50.0	56.0	62.0	68.0
	mm		451	508	578	673	914	1022	1270	1422	1574.8	1727.2
A2	in		17.9	20.2	23.0	26.9	36.5	40.9	50.9	56.9	-	-
	mm		454	514	584	683	927	1038	1282	1444	-	-
H	in		18.4	18.5	17.4	21.3	28.9	28.4	33.5	30.4	47.2	51.1
	mm		416	419	441	541	733	722	851	1000	1200	1299
WEIGHT	RP	lb	330.7	529.1	771.6	1433.0	3196.7	5621.7	8708.1	12966.2	-	-
		kg	150	240	350	650	1450	2550	3950	5700	-	-
	BW	lb	264.6	429.9	617.3	1190.5	2645.5	4850.1	6944.5	10030.9	13668.5	17857.2
		kg	120	195	280	540	1200	2200	3150	4550	6200	8100

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